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### **REMARKS**

Responsive to the Office Action mailed September 9, 2005, Applicants provide the following. Claims 1, 9, 12, 19, 22, 29, 35, 43 have been amended. Claims 2-4, 13-15, 23, 30, 36, 37, 44, and 45 have been canceled without prejudice. Thirty-eight (38) claims remain pending in the application: Claims 1, 5-12, 16-22, 24-29, 31-35, 38-43, and 46-50.

As discussed below, amendments to claims 9 and 19 merely adopt the Examiner's suggestion to place these claims in condition for allowance. Claims 1, 12, 22, 29, 35, and 43 were amended to incorporate subject matter that has already been considered in a previous Office Action. Accordingly, Applicants respectfully submit that the present amendment places the application in better condition for allowance and does not raise any new issues that would require further consideration and/or search. Reconsideration of claims 1, 5-12, 16-22, 24-29, 31-35, 38-43, and 46-50 in view of the amendments above and remarks below is respectfully requested.

By way of this amendment, Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain any outstanding issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned at (858) 552-1311 so that such issues may be resolved as expeditiously as possible.

### **Allowable Subject Matter**

Claims 9 and 19 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Applicants hereby amend claims 9 and 19 in independent form including all of the limitations of their respective base and intervening claims. Accordingly, Applicants respectfully submit that claims 9 and 19 are in condition for immediate allowance.

### **Claim Rejections - 35 U.S.C. §102**

Claims 1 and 12 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Medved et al. (U.S. Patent No. 5,818,619). This rejection is respectfully traversed and reconsideration is requested.

Claim 1 has been amended to incorporate features recited in claims 2 and 3. Regarding the rejection of claims 2 and 3, the Final Office Action acknowledges that Medved

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et al. fail to teach the newly incorporated features, suggests that Geiger (U.S. Patent No. 5,377,219) teaches the features missing from Medved et al., and asserts that it would have been obvious to modify Medved et al. using Geiger because column 12, line 12 – column 13, line 12 and lines 41–43 of Geiger allegedly suggests “that ... converting ... [from one wavelength to another all-optically has the] advantage of allowing ... a mid-infrared wavelength ... for communicating ... [data] over a free space optical link to overcome the atmospheric conditions as fog and reducing space, weight and cost of the whole device.” (see final Office Action mailed September 9, 2005, page 4)

Applicants respectfully submit, however, that amended claim 1 is not rendered obvious by the combination of Medved et al. in view of Geiger because there is no proper motivation to modify Medved et al. using Geiger, as suggested in the final Office Action.

Specifically, and as set forth at M.P.E.P. §§ 2143.01(V) and (VI), claims are not rendered *prima facie* obvious where the proposed modification or combination of the prior art would render the prior art invention unsatisfactory for its intended purpose or where the proposed modification or combination would change the principle of operation of the prior art invention being modified. Applicants respectfully submit that modifying Medved et al. with Geiger, as suggested in the final Office Action, would render Medved et al. unsatisfactory for its intended purpose and would change the principle by which Medved et al. operates.

For example, Medved et al. teach that the universal converter unit 10 disclosed therein “must be able to transfer optical data to and from communication networks at both ranges of 800–900 and 1300 nanometers” (col. 4, lines 61–63). In order to enable this universality, Medved et al. rely on the spectral responsivity of silicon and InGaAs photodiodes and emitting power of LEDs as shown in FIG. 2. Thus, the principle by which the system of Medved et al. operates is based upon electro-optical conversion.

If the RXU 24, airlink transmitter 26, TXU 20, and airlink receiver 21 of Medved et al. were eliminated and replaced by all-optical components as presumably suggested by the Examiner, the principle of operation by which the system of Medved et al. operates would be radically changed, resulting in FIG. 2 of Medved et al. becoming irrelevant. Furthermore, the intended universality of the universal converter unit 10 would be completely destroyed because the InGaAs photodiodes would no longer be present to automatically detect a wide range of wavelengths. Applicants assert that the proposed all-optical replacement components would be tuned to a specific, much smaller range of

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wavelengths than that disclosed in Medved et al. and would function in a completely different manner that does not achieve the desired universality described in Medved et al.

Therefore, Applicants assert that a person of ordinary skill in the art would have no motivation whatsoever to modify the system of Medved et al. to operate all-optically, without electro-optical conversion because to do so would completely change its principle of operation and render the system unsatisfactory for its intended purpose of universality. As such, a prima facie case of obviousness of Applicants' amended independent claim 1 cannot be based on such a modification of Medved et al.

Moreover, the system of Geiger is directed to laser remote sensing used to sense spectroscopic or aerosol returns, which is called "lidar," which stands for light detection and ranging. This application is quite different than transmitting light at wavelengths that result in minimal interaction with the surrounding atmosphere to ensure reliable data communication over an optical airlink interface. As such, Applicants submit that one of ordinary skill in the art would not have been motivated to modify a data communication system using Geiger. (see M.P.E.P. § 2141.01(a))

For at least the reasons presented above, Applicants respectfully submit that there is no proper motivation to modify Medved et al. using Geiger and arrive at the presently amended features incorporated from claims 2 and 3. Thus, the present rejection of claim 1 and its various dependent claims is overcome and should be withdrawn.

Claim 12 has been amended to recite elements similar to those found in claim 1. For similar reasons as described above, neither Medved et al. nor Geiger, singly or in combination, expressly or inherently teach or suggest a transmit wavelength transformer for converting the fiber interface fundamental wavelength of the first optical signal to a free-space fundamental wavelength all-optically without using electro-optical conversion or a receive wavelength transformer for converting the free-space fundamental wavelength of the second optical signal to the fiber interface fundamental wavelength all-optically without using electro-optical conversion. Thus, it is respectfully submitted that the present rejection of claim 12 and its various dependent claims is overcome and should be withdrawn.

**Claim Rejections - 35 U.S.C. §103**

Claims 2-7, 10, 11, 13-17, 20 and 21 stand rejected under 35 U.S.C. § 103(a)

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as being allegedly unpatentable over Medved et al. in view of Geiger (U.S. Patent No. 5,377,219). This rejection is respectfully traversed and reconsideration is requested.

Claims 5-7, 10, 11, 15-17, 20 and 21 variously depend from claims 1 and 12. As described above, the combination of Medved et al. in view of Geiger fails to render claims 1 and 12 obvious. Therefore, Applicants respectfully submit that Medved et al. in view of Geiger fails to render claims 5-7, 10, 11, 15-17, 20 and 21 obvious and, consequently, request withdrawal of the rejection of these claims under 35 U.S.C. § 103(a).

Claims 8 and 18 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Medved et al. in view of Kumar et al. (U.S. Patent App. Pub. No. 2002/0075542). This rejection is respectfully traversed and reconsideration is requested.

Claims 8 and 18 variously depend from claims 1 and 12. As described above, the combination of Medved et al. in view of Geiger fails to render claims 1 and 12 obvious. Kumar et al. fail to cure the deficiency of Medved et al. with respect to claims 1 and 12. Therefore, Applicants respectfully submit that the combination of Medved et al. in view of Kumar et al. fails to render the aforementioned dependent claims obvious and, consequently, request withdrawal of the rejection of these claims under 35 U.S.C. § 103(a).

Claims 22, 28, 29, 34, 35, 42, 43 and 50 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Medved et al. in view of Ransford et al. (U.S. Patent No. 6,532,087). This rejection is respectfully traversed and reconsideration is requested.

Claims 22, 29, 35, and 43 have been amended to recite elements similar to those found in claims 1 and 12. For similar reasons as described above, neither Medved et al. nor Geiger, singly or in combination, expressly or inherently teach or suggest the elements recited therein. Moreover, Ransford et al. fails to cure the deficiency of Medved et al. in view of Geiger with respect to claims 22, 29, 35 and 43. Thus, it is respectfully submitted that the present rejection of claims 22, 29, 35, and 43 and their various dependent claims is overcome and should be withdrawn.

Claims 23-25, 30-32, 36-39, 44-47 and 49 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Medved et al. in view of Ransford et al. and further in view of Geiger. This rejection is respectfully traversed and reconsideration is

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requested.

Claims 24, 25, 31, 32, 38, 39, 46, 47 and 49 variously depend from claims 22, 29, 35 and 43. As described above, the combination of Medved et al. in view of Ransford et al. and further in view of Geiger fails to render claims 22, 29, 35 and 43 obvious. Therefore, Applicants respectfully submit that Medved et al. in view of Ransford et al. and further in view of Geiger fails to render the aforementioned dependent claims obvious and, consequently, request withdrawal of the rejection of these claims under 35 U.S.C. § 103(a).

Claims 26, 27, 33, 40, 41 and 48 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Medved et al. in view of Ransford et al. and Geiger and further in view of Kumar et al. This rejection is respectfully traversed and reconsideration is requested.

Claims 26, 27, 33, 40, 41 and 48 variously depend from claims 22, 29, 35 and 43 via claims 24, 31, 38 and 46, respectively. As established above, Medved et al. in view of Ransford et al. and Geiger fails to render claims 22, 29, 35 and 43 obvious. Moreover, Kumar et al. fails to cure the deficiency of Medved et al. in view of Ransford et al. and Geiger with respect to claims 22, 29, 35 and 43. Therefore, Applicants respectfully submit that Medved et al. in view of Ransford et al. and Geiger and further in view of Kumar et al. fails to render the aforementioned dependent claims obvious and, consequently, request withdrawal of the rejection of these claims under 35 U.S.C. § 103(a).

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**CONCLUSION**

Applicants submit that the above amendment and remarks place the pending claims in a condition for allowance. Therefore, a Notice of Allowance is respectfully requested.

Respectfully submitted,



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